

# Who Has Access?

## *Making Accessible Play Spaces in Minecraft for Children with Autism*

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Access to game play is not always guaranteed, especially for those with disabilities. Who has access to what kinds of experiences is always in flux. Children with autism, for example, often do not have access to normative physical face-to-face game play in the same way other children might. Their comfort with face-to-face interactions varies from child to child, as well as their comfort levels in processing different sensory inputs.<sup>1</sup> Kathryn E. Ringland, Christine T. Wolf, Lynn Dombrowski, and Gillian R. Hayes. "Making 'Safe': Community-Centered Practices in a Virtual World Dedicated to Children with Autism." *CSCW 2015*. Vancouver, BC: ACM, 2015, pp. 1788-1800; Kathryn E. Ringland, Christine T. Wolf, LouAnne E. Boyd, Mark Baldwin, and Gillian R. Hayes. "Would You Be Mine: Appropriating Minecraft as an Assistive Technology for Youth with Autism." *ASSETS 2016*. Reno, Nevada: ACM, 2016, pp. 33-41; Pamela J. Wolfberg. *Play & Imagination in Children with Autism*. 2nd ed. New York City, NY: Teachers College Press,

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2009. Jean A. Ayres and Jeff Robbins. *Sensory Integration and the Child: Understanding Hidden Sensory Challenges*. Western Psychological Services, 2005. These children often prefer to engage in social play within virtual spaces, such as in *Minecraft*, a virtual “toybox” of building blocks, that autistic children find more accessible than physical world play spaces.<sup>2</sup> Christine T. Wolf, Heather Faucett, Lynn Dombrowski, Gillian R. Hayes and Kathryn E. Ringland. “‘Will I Always Be Not Social?’: Re-Conceptualizing Sociality in the Context of a Minecraft Community for Autism.” *CHI 2016*. San Jose, CA: CHI, 2016. In this essay, I will explore how parents and children have worked together to create an accessible play space. Here, the physical and virtual have become inevitably intertwined as they have not only configured their physical access to the game, but also their software, virtual world, and social interactions. Firstly, parents and children consider the physical layout of their play space – adjusting hardware, not only to allow *Minecraft* to run optimally, but also to create access to play that an autistic child with special sensory needs might require. Secondly, parents and children must negotiate with one another in order to gain access to *Minecraft* – both in obtaining the initial software and the time to play. To create access to this play space, the community must share knowledge with its members, from hardware setup to particular social rules. In doing this these community members work towards creating access to a comfortable, safe place for these children to play.

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To understand how access to this play space is created, we must first define access. Access, in general, is not a given experience for any

2. Ringland, et al., "Making 'Safe'";

one person. Access occurs at the moments where a body and the world interact. “Access...is an interpretive relation between bodies” or between bodies and the world.<sup>3</sup> Tanya Titchkosky. *The Question of Access: Disability, Space, Meaning*. Toronto, ON: University of Toronto Press, 2011, p. 3. When access is faulty or denied, disability is created in that moment.<sup>4</sup> Elizabeth Ellcessor. *Restricted Access: Media, Disability, and the Politics of Participation*. Postmillennial Pop. NYU Press, 2016. Disability “is not simply lodged in the body but created by the social and material conditions that ‘dis-able’ the full participation of a variety of minds and bodies.”<sup>5</sup> Faye Ginsburg, and Rayna Rapp. “Disability Worlds.” *Annual Review of Anthropology* 42.1 (2013), pp. 53–68. Indeed, “questions of access can arise for anyone, at any time, and anywhere for innumerable reasons, access is a way people have of relating to the ways they are embodied as beings in the particular places where they find themselves.”<sup>6</sup> Therefore, access goes beyond ability and disability in a medical or physical sense. Rosemarie Garland-Thomson refers to these failed moments of access as a “misfit,” where a “misfit occurs when the environment does not sustain the shape and function of the body that enters it.”<sup>7</sup> Rosemarie Garland-Thomson. “Misfits: A Feminist Materialist Disability Concept.” *Hypatia* 26.3 (2011), pp. 591–609, here pp. 593–594. This misfit does not occur all the time, during every interaction in the world, but rather during encounters in the environment that was not built for that body (*e.g.*, a shelf that is too high, a wheelchair encountering stairs). In summary, access can be

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6. Titchkosky, p. 3

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defined as the point of interaction when the world is able to sustain a body and that body is able to *fully experience* the interaction.

Access is usually reserved for the “majority” or normative body (*i.e.*, those bodies that are privileged by society), but there has also been an effort to create a more inclusive environment. This can be seen through official legislation, such as the Americans with Disabilities Act (ADA) , and through individual efforts to create inclusive, safe spaces, such as moderating forums. Handicap parking, as mandated by the ADA, is a prime example of giving access to a certain set of individuals who did not have access previously. Considering the physical aspects of the handicap space – creating wide spaces and adding a ramp to the sidewalk allows for those with mobility impairments to move freely from a vehicle to a sidewalk. Likewise, in considering the social aspects of handicap parking – the licensing required to have access to the spaces, demarcation of the wheelchair symbol, and the inference of priority for disabled individuals – all show how society deems those with disability may have access to public spaces. However, these priorities and considerations only extend to a certain subgroup of disabled individuals – those deemed by the state to have the “right” kind of disability. As discussed in other disability studies literature, society reflects these priorities by shaming those who use the space but whose appearance does not fit the societal expectations of someone who is disabled, even though they are legitimately using the space with the required licenses and tags.<sup>8</sup> Ann N Davis. “Invisible Disability.” *Ethics* 116.1 (2005), pp. 153–213.

Within Game Studies, certain types of games and gameplay have been privileged over others – for example, digital games over analog

games.<sup>9</sup> Aaron Trammell, Emma Leigh Waldron, and Evan Torner. “Reinventing Analog Game Studies.” *Analog Game Studies* 1.1 (2014). When exploring both analog and digital games, what assumptions are there about the players who play? In both physical and digital spaces, more often than not, players are imagined to be able-bodied (if not cisgender, heterosexual, white, and male).<sup>10</sup> Adrienne Shaw. *Gaming at the Edge: Sexuality and Gender at the Margins of Gamer Culture*. University of Minnesota Press, 2015. When making assumptions about the imagined audience of a game, designers are potentially creating troubled points of access for players. This is salient for many different bodies, not just those with disabilities. As Shaw states, “play spaces are also not inherently welcoming to all bodies”<sup>11</sup> (e.g., those of people of color, women, LGBTQ). But for disability in particular, we can study how not only social barriers exist within games (e.g., limited diversity, exclusivity of playgroups), but physical barriers as well. Exploring non-normative play allows us as scholars and game designers to bridge our understanding of this analog-digital divide (that seems to separate physical play from digital play) that exists in games scholarship by explicating how one begets the other and vice versa.

This essay draws upon data collected from my ethnographic fieldwork, which takes place in an online community that has grown around a *Minecraft* server known as “Autcraft.” *Minecraft* is an open-ended, free-play style digital space through which players can interact in a virtual world with no particular goals or play requirements.<sup>12</sup> Sean C. Duncan. “*Minecraft*, beyond Construction and Survival.” *Well*

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11. Shaw, p. 187.

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*Played: A Journal on Video Games, Value and Meaning* 1.1 (2011), pp. 1–22. The open-endedness of *Minecraft* allows for an expression of individuality and creativity during play, which may make the game particularly compelling for some players.<sup>13</sup> In this sense, *Minecraft* is less like a normative computer game, and more like an open toybox full of building blocks. The players in this large toybox can play whatever games they choose. As previous work has found, *Minecraft* is a particularly accessible choice for children with autism – given the challenges they may face in a physical world play space – with the ability to play in a more amenable sensory environment.<sup>14</sup>

Through “multiplayer” *Minecraft* allows players to interact with others and be as socially engaged as the individual player desires in a procedurally generated virtual world. One world could have each individual building on his or her own land plot, while another could have a communal space where everyone builds collaboratively. This makes *Minecraft* much more like a virtual world – or a toybox where many people can play together at once – rather than a typical videogame (*i.e.*, more like *Second Life* rather than *World of Warcraft*). This allows for social play to occur in ways that might be similar to a playground, without many of the physical barriers that prevent access for those with autism.<sup>15</sup>

Autcraft is a semi-private server on *Minecraft* created for children with autism and their families. As such, anyone wishing to join must first complete an application to be added to the “white list.” This application includes a declaration of having autism or being a friend or family member of someone with autism who plays on the server.

13. Duncan.

14. Ringland, Wolf, Boyd, et al. "Would You Be Mine."

15. Ringland, Wolf, Faucett, et al., "Will I Always Be Not Social?"

Only those who have been added to the white list can access the server. Autcraft currently has more than 7,000 white-listed members with a daily average of approximately 50 players in-world at peak hours of the day and approximately 1,200 unique players logging in each month. This community maintains a *Minecraft* virtual world in tandem with other social media platforms, including YouTube, Twitch, Twitter, Facebook, and a community maintained website (including an administrator's blog, community forums, member profiles, and an in-browser web messenger). The community Facebook page states that Autcraft is “[the] first *Minecraft* server dedicated to providing a safe, fun and learning environment for children on the autism spectrum and their families.” The Autcraft community expresses the goal of allowing players to play without the fear of being bullied. As such, the server provides a supportive environment in which children can socialize while participating in an activity they enjoy.

Autcraft has some unique features that make it different from other *Minecraft* servers. This includes administration of the virtual world, construction and use of unique spaces within the virtual world, and organization of specialized events and activities. Many of these features are accomplished through “mods” (*i.e.*, additional software packages that modify the original game) to either the single player or multiplayer game. Using these mods, a server owner can customize the virtual world, gameplay, and objects within the virtual world (*e.g.*, add or modify existing objects found within the virtual world). Autcraft is set up with specific measures in place with the intention of creating a “fun, safe environment for children with autism.”<sup>16</sup> Kathryn E. Ringland, Christine T. Wolf, Lynn Dombrowski, and Gillian R.

Hayes. “Making ‘Safe’: Community-Centered Practices in a Virtual World Dedicated to Children with Autism.” *CSCW 2015*. Vancouver, BC: ACM, 2015, pp. 1788-1800. These safety measures include giving each player the ability to keep their items safe from other players, turning off violent monsters, and monitoring and logging of all activity by administrators, moderators, and add-on tools.

I gained access to this community by contacting the founder and discussing my interest in learning more about the community and *Minecraft* server with the administrators. After gaining the appropriate ethics board approval, I was added as a regular player to the community whitelist. I announced my presence through the community forums and social media, as well as within the virtual world itself. I had my own custom avatar created to look like a researcher in order to make my presence clearer (See Figure 1).





Figure 1. A researcher's avatar. Image provided by author.

I also created an in-world office where I could be found by the other community members (See Figure 2). The data I collected and analyzed included interviews of children and parents, fieldnotes from my participant observations, directed and non-directed forum discussions, chat logs created by the *Minecraft* game, and digital artifacts such as screen shots and web posts.



Figure 2. An in-game office for the avatar. Image provided by author.

The motivation for creating the Autcraft community stemmed from a need to have a safe place for autistic children to play. For those with autism, social interactions can be challenging, particularly in person and on the telephone.<sup>17</sup> Janet E. Lainhart and Susan E. Folstein. "Affective Disorders in People with Autism: A Review of Published Cases." *Journal of Autism and Developmental Disorders* 24.5 (1994), pp. 587–601; Wolfberg, *Play and Imagination*. Despite their challenges in social interactions and popular misconceptions about their sociability, individuals with autism typically express a desire to create social connections with others.<sup>18</sup> Eve Müller, Adriana Schuler, and Gregory B. Yates. "Social Challenges and Supports from the Perspective of

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Individuals with Asperger Syndrome and Other Autism Spectrum Disabilities.” *Autism* 12.2 (2008), pp. 173–90; Elinor Ochs and Olga Solomon. “Autistic Sociality.” *Ethos* 38.1 (2010), pp. 69–92; Amit Pinchevski and John Durham Peters. “Autism and New Media: Disability between Technology and Society.” *New Media & Society* 18.11 (2015). Pinchevski and Peters 2015). Online communities, including social networking sites,<sup>19</sup> Moira Burke, Robert Kraut, and Diane Williams. “Social Use of Computer-Mediated Communication by Adults on the Autism Spectrum.” *Proceedings of the 2010 ACM Conference on Computer Supported Cooperative Work* (2010), pp. 425–434; Hwajung Hong, Jennifer G. Kim, Gregory D. Abowd, and Rosa I. Arriaga. “Designing a Social Network to Support the Independence of Young Adults with Autism.” *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work* (2012), pp. 627–636. can create multiple avenues for communication for those who are uncomfortable with face-to-face interactions.<sup>20</sup> Despite the potential advantages online communication has for people with autism, these interactions also bring their own challenges. It can be difficult to know who is trustworthy in a space where multiple identities, some fraudulent, are easily created.<sup>21</sup> Cyberbullying can be harder to avoid than in-person bullying with increasing mobile and home connectivity.<sup>22</sup> Sameer Hinduja, and Justin W. Patchin. “Cyberbullying: An Exploratory Analysis of Factors Related to Offending and Victimization.” *Deviant Behavior* 29.2 (2008), pp. 129–56; Ringland, et al. “Making Safe”; Robert S. Tokunaga. “Following You Home from School: A Critical Review and Synthesis of Research on Cyberbullying Victimization.”

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20. Pinchevski and Peters. "Autism and New Media."

21. Burke, Kraut, and Williams. "Social Use."

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*Computers in Human Behavior* 26.3 (2010), pp. 277–87. For these reasons, parents and children in the Autcraft community have had to make decisions about what to prioritize in terms of access to play online. To create and maintain access to the game, parents and children modify both their physical and virtual environments. I will explore some of the ways they configure their physical environment and the liminal space between the physical and virtual worlds. The liminal space, in this case, is distinct from the physical space and the Autcraft virtual world, as a place where critical infrastructure is setup and the software for the virtual world is maintained. A liminal space would include activities such as the computer and software setup, registering and maintaining user accounts, installing software modifications. In the liminal space, one does not necessarily occupy a body as in the physical world or virtual world, but nevertheless play still occurs (*e.g.*, overclocking the computer or “playing” around with software settings). Throughout this process, both parents and children are negotiating their priorities in access to the game and engage in various social dialogs in order to maintain.

The physical environment and access to *Minecraft* poses several different challenges for autistic children – both because they are autistic and because they are children. First, as children, they are often not in control of their physical computing setup – particularly younger children who do not yet have the privilege of their own computers or devices. This means that for these children, they must use the family computer, often out in an open space. This also means they might not have permission to use the computer whenever they desire, being relegated to times when parents tell them it’s okay to play or when their siblings are not using the device. This varies from home to home, but is not questioned when discussed online. A child might say they have to get off now because their older sibling needs

to do their homework or that their hour is up. This is met with fond farewells, with everyone understanding why the child must leave. How and when a child gets access to a computer must be negotiated within each family. Parents often struggle with how much “screen time” to give a child,<sup>23</sup> Alexis Hiniker, Sarita Y. Schoenebeck, and Julie A Kientz. 2016. “Not at the Dinner Table: Parents- and Children-S Perspectives on Family Technology Rules.” *Association for Computing Machinery* 27 (2016), pp. 1374–87. but with autistic children this is complicated by media and experts concerned over the so-called “addiction” to games a medium<sup>24</sup> Nicholas Kardaras. *Glow Kids: How Screen Addiction Is Hijacking Our Kids and How to Break the Trance*. New York: St. Martin’s Press, 2016; Micah O. Mazurek, and Christopher R. Engelhardt. “Video Game Use in Boys With Autism Spectrum Disorder, ADHD, or Typical Development.” *PEDIATRICS* 132.2 (2013), pp. 260–66; Micah O. Mazurek and Christopher R. Engelhardt. “Video Game Use and Problem Behaviors in Boys with Autism Spectrum Disorders.” *Research in Autism Spectrum Disorders* 7.2. (2013), pp. 316–24. and by the child’s desire to engage in the virtual world, potentially leading to issues such as temper tantrums and meltdowns. One such instance of a tantrum occurred in the virtual world and led to a string of tantrums in multiple players, forcing the administrators to shut down the virtual world for a couple hours to allow everyone to cool off. Administrators, parents, and children must all learn to balance how much time spent in the play space is appropriate and when access should be given or denied.

The physical spaces where the computer is located often get blurred

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with the social experience online as children share their hardware specifications online and seek advice from others. As children get older, some get the privilege of having their own computers in their bedrooms. This is a source of pride for them and they post the specs of their computers and even pictures of their computing setups in the Autcraft forums (See Figure 3).



Figure 3 – A picture of a home computer set-up. Image provided by the author.

They also seek each other's advice on the best hardware to upgrade to for *Minecraft* to work better. This can also have the effect of leading these children to a sense of responsibility and accomplishment. They learn skills of how to customize their own hardware systems, what kinds of components they can add on, and how these different changes affect their gameplay. This work of arranging their physical space is a social experience that blends both offline and online spaces,

and through advice-seeking, creates points of access both in their physical and digital interactions.

Another important consideration in the physical setup of *Minecraft* access are the various sensory concerns for those with autism. This includes adjusting the hardware so that it is a more comfortable setup, including dimming or brightening the screen, adjusting the volume of the audio, and even adjusting the brightness of the lights within the physical room. This physical set-up is often mirrored by similar adjustments in the Autcraft virtual world. For example, a child digs a hole in the ground with their avatar in order to make the screen go black (as opposed to simply turning off the screen).<sup>25</sup> This example shows the analog-digital divide in their play is not as stark or as obvious as one might think: Creating access happens concurrently across the physical and digital environments.

Along with hardware and physical environment considerations, the liminal space between the physical and virtual environments proves an important source of contention and access to the play space. This liminal space includes the software itself, user accounts (which currently cost \$26 USD), and the computer system setup. The software for *Minecraft* can be downloaded any number of times to compatible devices with a valid user account login. For some children, this means they have their own account (with their own screen names) and for other children they must share the account with a sibling or parent. Children and parents negotiate and decide where to spend their resources in order to create access to *Minecraft* while balancing other priorities in the family – including rules about how much time a child can spend on the computer, how much money a family can afford to spend on access to the game, and the

25. Ringland, Wolf, Boyd, et al. "Would You Be Mine."

needs of other family members. This becomes more than a simple question of access to game play, but a negotiation over the shared environment and individual values to gain access to the Autcraft community.

Through a computer with an internet connection, a child can access the full version of the *Minecraft* software. While there are mobile editions of the game, the Autcraft virtual world is only supported through the computer version. However, for children with limited access to a computer, they may also access the chat functionality of the virtual world through third-party mobile applications. These applications log a user into their account and their avatar appears in the virtual world. But the user cannot move their avatar or even see the virtual world, except for the text chat. This allows community members to participate in one aspect of the virtual world play, even if they do not have access to the full *Minecraft* game. Using these applications to engage in the virtual world show that the child is willing to have some engagement in the virtual world play, or at least the social aspects of this play, rather than none at all.

For those parents who are able to afford to give their child access, they must also “buy in” to the Autcraft experience – that is, they believe that Autcraft is a valuable place for their children to be spending their time. Much of the parent and child’s time is consumed in work, school, and various therapies to help support the autistic child, what little time is left for free play is especially precious. Some parents admit trepidation about allowing too much “screen time” or not understanding the technology or game enough to make informed decisions about their child’s access. A whole forum is dedicated to helping parents navigate the Autcraft space, while another entire forum is dedicated to solving hardware and software



issues. These online forums become almost as important as the virtual world itself. Both children and parents use it to gain the knowledge required – which can be intricate and in-depth – to gain entry to the virtual world. This knowledge spans hardware and software set-up (including how to add mods and understanding IP addresses) to the social rules needed to navigate the social play within the community.

Parental involvement ranges from minimal involvement to co-playing with their children. Co-playing can take the form of parent and child controlling one avatar in-world together or playing on separate devices in the same physical space. This includes the founder of Autcraft who is also a father of two young boys. His motivation in creating the server was for autistic children to have somewhere they “can feel safe but still get the experience of playing with other people.” Many other parents also take roles within the Autcraft community (*e.g.*, administrators) and, therefore, not only play and interact with their own child, but other children (and adults) in-world as well. Parents created a series of rules for interactions within the community to create a safer play space, which everyone, not the just children, must abide by.<sup>26</sup> This parental involvement and rule-making demonstrates the need for both creating a structured, safe play space for autistic children, as well as the lengths these families must go through in every aspect of their lives to meet the needs of their children. And for children whose parents cannot be as involved, they are also granted this same kind of safety through the infrastructures in place and through help provided both through the community’s social media and in-world.

There is one group of individuals who are explicitly excluded from the Autcraft community and denied access to the play space – that

26. Ringland, et al. "Making Safe"

is, trolls and those who mean harm to the players with autism. This exclusion is controlled mainly through the whitelist of permitted players. The administrators maintain a list of banned usernames that keeps most of the mischievous makers at bay. However, one hacking incident led administrators to take more stringent precautions. Hackers had managed to redirect the IP address of the Autcraft server so that when players tried to log in they were sent to another virtual world instead. As reported in an administrator's blog, "Once there, they were encased in a bedrock box from which they could not leave and were told that they were rejects from society, degenerates and that they should kill themselves." These individuals made use of their own specialized knowledge of the liminal space in order to engage in their own form of play, at the expense of members of the Autcraft community. When administrators of Autcraft were able to stop the hackers from redirecting Autcraft players, the hackers then launched a DDOS (Denial-of-Service) attack on the Autcraft virtual world, which is a means of technically denying access to the virtual world for everyone. As the administrator put it in his blog, the hackers attempted "to make Autcraft unplayable for everyone because if they couldn't tell the children to kill themselves directly, then they'd at least try to take everything away from them that they could." These attacks eventually caused the Autcraft administrators to change the Autcraft IP address – meaning community members had to understand how to reconfigure their own settings in order not to be locked out along with the hackers. Creating access for some inevitably means denying access to others – especially when the goals for one group are in opposition to the goals of another group.



Figure 4 – A disability sign. Image provided by the author.

As with the handicap parking, the ADA requires buildings be accessible to people with certain kinds of disabilities – in particular,

those with mobility impairments (See Figure 4).<sup>27</sup> Likewise, software and website accessibility requirements mainly focus on those with visual impairments. Not all accessibility and access is equal for everyone – some disabilities are inherently privileged over others. As with the examples above, the Autcraft community, parents, and families privilege access to this virtual play for children with autism. This is important because in many other contexts, autistic children are expected to accommodate others – engaging in interactions and play that they find difficult and uncomfortable – especially in physical world, face-to-face play. For many of the children in Autcraft, the Autcraft virtual world is the only place for them to play and have friendships. Even with creating this play space, this is not accessible to all children, even all autistic children. However, the Autcraft community continues to strive to include as many diverse children as possible. Through this essay, we can begin to understand the various barriers to access to play faced by autistic children, so that in future we can broaden our understanding of accessible play, allowing for a more diverse play community. This means not only understanding how spaces, such as Autcraft, can be included in Games Studies literature, and replicated for other marginalized groups, but also expanding this understanding to other aspects of life. Instead of forcing those with disabilities to accommodate our expected social interactions and methods of play, we can shift our own assumptions about what play in various game media could and might be.

27. Davis. "Invisible Disability."